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WOLF

by D.H. Pimlott

The wolf is a much maligned animal. In the western world, man's fear and hatred of wolves is reflected in stories such as Little Red Riding Hood and The Boy Who Cried Wolf. In these popular children's tales the wolf is made out to be a marauder, a killer of beast and man.

There is some basis for The Boy Who Cried Wolf for wolves have killed cattle and sheep. But what of Little Red Riding Hood? There are no records of wolves killing humans in Canada or the United States. Yet, when they are spotted near rural communities, widespread fear may grip the populace - a fear that is largely unjustified for scientists studying wolves have lived very close to dens where there were pups without being attacked. They have even taken pups from a den without being molested. The parents have usually run away, returning later only to take their young to a more private den or rendezvous.

In areas where wolves are hunted or trapped they fear man and are very wary. However, in remote places they show very little fear and will often allow people to live near them.

Distribution and classification

One hundred years ago wolves were more widely distributed than any other mammal of historic times. They lived in large areas of North America, Europe and Asia and were incapable of occupying only deserts, tropical rain forests and peaks of the highest mountain ranges.

Wolves still live in large areas of the northern hemisphere; however, their primitive range is greatly reduced due to changes in the habitat and man's efforts to exterminate them.

In North America, wolves have been completely exterminated in the Atlantic provinces, and almost so in Mexico, the United States (except Minnesota and Alaska) and the heavily populated areas of southern Canada. They are still quite common in lightly settled portions of Canada from Labrador to British Columbia and in parts of the Yukon and Northwest Territories.

The wolves of Europe and North America belong to the species grey wolf (Canis lupus), except in the southeastern United States where the red wolf (Canis rufus) was once plentiful. Three subspecies of the latter have dwindled to a

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small number and attempts are being made to protect them.

Twenty three subspecies of the grey wolf exist in North America. In Canada the Mackenzie Valley wolf (Canis lupus occidentalis) is generally found in the Mackenzie District, Northwest Territories; the eastern wolf (Canis lupus lycaon) in Ontario and Quebec (except the northern part of that province), and the Hudson Bay wolf (Canis lupus hudsonicus) on the mainland tundra. Many other less widely distributed subspecies survive in remote parts of the country.

Physical characteristics

"Oh, they look just like dogs," is an appropriate comment often heard near wolf pens in a zoo, for dogs are partly descendants of wolves and the husky has wolf blood.

It is virtually impossible to describe the typical appearance of wolves. Wolves of many large Arctic islands and Greenland usually appear snow white from a distance, but often reveal grey, black or reddish shades closer up. Wolves of northern North America and Eurasia vary in colour. A single pack may contain animals that are black, shades of grey-brown and white. Timber wolves in the heavily forested areas of eastern North America are more uniform in colour. They are often a grizzled grey-brown like some German shepherd dogs.

This colour variation is a good example of natural selection which enables animals best suited to a particular environment to survive. On the Arctic islands, where much of the ground is snow-covered for at least nine months of the year, being white is quite a distinct advantage; so the near-white Arctic wolf has survived there. In the mottled grey, green, brown world of the eastern forests the normal coat of the timber wolf is an effective camouflage. As a wolf moves stealthily, or rests, it blends into the background and is hardly seen.

Arctic wolves have extremely dense underfur which insulates them against rigorous winters. Another adaptation to environment is their habit of hunting in packs, or groups, which enables them to kill large animals - deer, elk, moose, caribou, bison and musk oxen.

Social behaviour and family life

The wolves' habit of hunting in packs has resulted in the development of complex patterns of social behaviour. Wolves are gregarious - they not only hunt in packs or groups but live most of their lives with other wolves. Studies in Alaska and parts of Canada show that a family made up of male, female and pups is the basic pack unit, but how other adult animals fit in is still not clearly understood. They may be pups of

previous years, or they may be second year or "adolescent" animals from other packs. Adolescent wolves have been learning to hunt for at least a year so can probably hunt big game animals, their usual prey, with the rest of the pack.

Studies of wolf packs in captivity show a highly organized social structure centering on a dominant male and a dominant female. A dominant wolf holds its tail high, stands still-legged and bristles its mane. In its presence, a subservient animal cowers on the ground with its ears back, or stands with its tail between its legs, maintaining a very slinky posture. The pack leaders are seldom challenged by their followers; consequently wolf packs seldom fight among themselves.

The pack bond is strongest during winter, when the wolves travel and hunt together. In summer, when the pups are young, the adults seldom go on long forays. They may hunt together occasionally after meeting at the den or home site where the pups are being cared for.

Wolves differ from domestic dogs in their reproductive cycles. Male dogs can breed at any time of year and females every six months whereas both male and female wolves in the wild can breed only once a year. In captivity, male wolves can successfully breed more than one female. Whether wolves mate for life has never been proven. Breeding time varies with the latitude but most commonly occurs in March and April. After a nine-week gestation period, litters of five or six pups (sometimes eight or more) are born.

Wolves reach sexual maturity in their second year. It is possible for young animals to have young of their own on their second birthday. A pack may include several mature animals but rarely in one year will more than one female successfully raise her young. When more than one female in captivity has produced young the pups of one litter have sometimes been killed by other adult wolves.

Wolf pups are usually born in a den which, in coniferous forests and on tundra, is commonly dug in sand deposits, such as eskers, caused by glacial melt water. In mixed forest areas the den may be located in hollow trees, old pine stumps, or rock crevices. The pack usually remains at the whelping den for a month or more unless it is disturbed.

The pups remain inactive in the den for approximately two weeks. When they begin to move around outside, another member of the pack may sometimes babysit while their parents go hunting. Occasionally, the pups are left alone for up to a day at a time. By mid-autumn they are travelling with the pack and presumably participating in hunting and other pack activities.

Their frequent play helps young wolves develop hunting skills. Mature wolves can set up ambushes or drive prey toward other wolves. These learned (non-instinctive) skills originated in their clumsy attempts as pups to hide behind obstacles and then jump out at each other. Even in winter, after they are almost fully grown, pups continue to play in a variety of ways - chasing around a tree in a forest opening, or having a fast-moving game on a wilderness lake, with a piece of wood or garbage as the prize.

Howling

The howling of a wolf pack is one of the most awe-inspiring wilderness sounds, and one not fully understood by man. It may be a form of communication among individual wolves and possibly packs. Wolves travelling alone, or in pairs, howl back and forth as if to keep in touch with each other.

Wolves often howl spontaneously at a home or rendezvous site. This howling may be a form of 'song-fest' for the wolves apparently enjoy it. In one instance a pack of arctic wolves separated from some pups by a fast-flowing river howled frequently for several hours. As they did so, the pups moved anxiously along the river bank. This howling seemed to be a form of calling or coaxing. Howling by a pack may also be a way of warning other packs to keep away from occupied territory, and may serve to separate packs.

Man still has much to learn about the behaviour of wolves in the wild. Do packs maintain territories that are strictly separate? Is there fighting between packs? Do wolves control their numbers by killing pups or older animals? Are they forced to leave the pack when they reach a certain age? These, and many other questions, remain to be answered.

Hunting and food habits

Wolves primarily hunt large mammals such as deer, moose, caribou, elk, bison and musk-ox. They also eat a variety of smaller mammals and birds but these rarely make up more than a small part of their diet.

Wolves work hard for their food. They have to. Studies show that they kill only one large mammal for every 9 or 10 chased. In winter, they usually kill old or weak animals; in summer the young animals born that year are easiest to catch and comprise much of their diet. Scientists do not yet know whether the old or unfit members of the wolf pack are also killed in summer. The entire pack makes most winter kills. The chase is sometimes direct and frequently ends quickly when white-tailed deer are the prey, even when the snow is not deep

In winter, scientists can study the hunting behaviour of wolves from aircraft or by following their tracks in the snow. But opportunities for watching summer hunts are rare; therefore, much less is known about hunting habits in this season.

Since wolves usually travel alone or in pairs in summer, much of the hunting may be of a different nature. Stealthy stalking may play a large part in summertime hunting, according to one scientist who has studied wolves intensively.

Control of wolves

Man has long practised control and extermination of wolves. Ordinarily governments have paid a sum of money, called a bounty, for each animal killed. In Canada, the first bounty payment was made in Ontario, then Upper Canada, in 1792. Eventually, bounties were paid in every province and territory inhabited by wolves. But by 1967 they had been discontinued except in Ontario, Quebec and the Northwest Territories. British Columbia and the prairie provinces now use traps and poisons to kill wolves inhabiting areas where they may threaten livestock or game populations.

Recent studies show that wolf populations are unlikely to grow very large regardless of control by humans. When wolf populations on Isle Royale in Lake Superior, and in Algonquin Provincial Park, Ontario, reach densities of approximately one wolf to 10 square miles there is no further increase. This is a comparatively high Canadian wolf population. One wolf per 100-200 square miles is more common than the higher densities in areas where big game animals are abundant and wolves completely protected.

Wolves contribute to the control of big game animals. Where wolves are absent (Anticosti Island, Pennsylvania, and Wisconsin are examples), white-tailed deer have over-populated their range and caused much damage to the forests. Food shortages and mass starvation of deer during the winter sometimes follows.

Wolves have already been exterminated in many places. However, there may be less danger of such excesses in the future as wolf control is increasingly based on biology rather than emotion. There is now some greater awareness among hunters and others that the killing by wolves of deer and other prey species that we may want for ourselves is not a sufficient reason for the extermination of wolves.

In the wilderness scheme of things wolves play an important role. And from a human point of view, the great interest and value of having this very intelligent animal as part of our wilderness heritage should be sufficient justification for it being allowed to survive in a wide variety of wilderness and semi-wilderness areas of Canada.

How does the Canadian Wildlife Service fit into the national wildlife picture?

The Canadian Wildlife Service conducts wildlife research and management for the federal government. Each province controls the natural resources, including wildlife, within its boundaries. However, because of the Migratory Birds Treaty, signed in 1916 with the U.S.A., the federal government is responsible for management and protection of migratory birds. CWS administers the Migratory Birds Convention Act and Regulations but co-operates with provincial governments in doing so.

CWS studies migratory birds throughout Canada and conducts scientific research into other wildlife problems in the Northwest Territories, the Yukon Territory and the national parks. The National Wildlife Policy and Program, announced in April 1966, provided for expanded research and management by the service, in co-operation with provincial game agencies and other organizations.

The staff includes mammalogists, ornithologists, limnologists, pathologists, a biometrician and a pesticides unit. The head office is in Ottawa; regional offices are located in Edmonton and Ottawa, with smaller offices across Canada, from Whitehorse, Yukon Territory, to St. John's, Newfoundland.

CWS administers over 90 migratory bird sanctuaries throughout Canada and participates with the provinces in a major program for preserving, by purchase and long-term lease, wetlands necessary to migratory birds for breeding and for resting during migration.

For further information on wildlife in your province, please contact the director of your provincial fish and wildlife department.

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